

TRANSMISSION OF CHAGAS' DISEASE THROUGH TRANSPLANTED KIDNEY: OCCURRENCE OF THE ACUTE FORM OF THE DISEASE IN TWO RECIPIENTS FROM THE SAME DONOR

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SUMMARY

Two cases of acute Chagas' disease acquired after renal transplantation are reported. The two patients received the kidney from the same donor. The present paper confirms this form of transmission of Chagas' disease and reinforces the need to exclude kidney donors with *Trypanosoma cruzi* infection.

KEYWORDS: Chagas' disease; Renal transplantation; *Trypanosoma cruzi*; Chagas' disease transmission.

INTRODUCTION

The occurrence of infection by the transfer of pathogens from organ donors to recipients is a source of concern at transplant centers. In addition to its obvious repercussions on the success of transplants, this occurrence has important implications in terms of the policy of organ search, selection and availability.

In areas where Chagas' disease is endemic, the true potential of transmission of the disease through kidney transplants is not known and the occurrence of acute Chagas' disease in kidney recipients has been occasionally reported (CHOCAIR et al., 1981²; FIGUEIREDO et al., 1990³).

The present paper, which reports the occurrence of acute *Trypanosoma cruzi* infection in two recipients of kidneys from the same donor, confirms this form of transmission and, in our opinion, reinforces the need to

exclude kidney donors with positive serology for Chagas' disease.

CASE REPORTS

DONOR - a 54-years old male victim of an automobile accident not submitted to serological testing for the presence of Chagas' disease, rescued in Marília, state of São Paulo, Brazil.

RECIPIENT I - a 43-year old oriental woman with a negative complement-fixation reaction for Chagas' disease before transplant. She was submitted to renal transplant on October 7, 1989, with a good immediate postoperative course. She was discharged on the 20th post-transplant day while using 240 mg/d cyclosporin (Cy), 80 mg/d azathioprine (Aza) and 20 mg/d prednisone (Pred).

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On January 5, 1990, she started to have daily fever of 38 to 39°C and muscle pains. Physical examination revealed moderate skin and mucosal pallor and a hyperemic macula measuring 10 X 5 cm on the left calf. There was no adenomegaly or hepatosplenomegaly and the patient presented no clinical signs of rejection. Neurological examination was normal. Laboratory tests revealed hemoglobin = 6.0 g/100 ml, hematocrit = 18%, red blood cells = 1,900,000/mm³, white cells = 5,600/mm³ (5% rods, 85% segmented cells, 1% eosinophils, 8% lymphocytes, and 1% plasmocytes). A blood smear revealed numerous forms suggestive of *Trypanosoma cruzi*. Serum creatinine was 5mg/dl, and BUN -68 mg/dl. Twenty days before the onset of fever, a xenodiagnosis and an indirect immunofluorescence test for Chagas' disease were performed, both giving positive results. On January 9, 1990, treatment with 5mg/kg/d benzonidazole (BNZ) was started, with a good clinical response. The fever disappeared on the 3rd. day of treatment.

RECIPIENT II - a 10-year old white boy with a negative complement-fixation reaction for Chagas' disease. He was submitted to renal transplant on October 7, 1989 with a good immediate postoperative course. He was discharged on the 17th postoperative day using 240 mg/d Cy, 50 mg/d Aza and 20 mg/d Pred. On October 30, 1989 he started to have daily fever (38.5-39.5°C), apathy and anorexia. Physical examination revealed only moderate skin and mucosal pallor. There was no adenomegaly or hepatosplenomegaly. Neurological examination was normal. There were no clinical signs of transplant rejection. Laboratory tests revealed hemoglobin = 8.3 mg/100 ml, red blood cells = 3,000,000/mm³, white cells = 5,400/mm³ (12% rods, 67% segmented cells, 1% eosinophils, 2% basophils, 16% lymphocytes, and 2% monocytes), creatinine = 1.7 mg/dl, and BUN = 27.3 mg/dl. A renal biopsy performed on November 8, 1989 showed no signs of rejection.

With the persistence of clinical signs and symptoms, the patient started to show moderate progressive weakness and hepatosplenomegaly. On December 13, 1989, a blood smear revealed numerous forms suggestive of *Trypanosoma cruzi*. On December 12, 1989, the indirect immunofluorescence reaction for Chagas' disease was positive. Treatment with 5

mg/kg/d BNZ was started, with a good clinical response. The fever disappeared on the 2nd day of treatment and there was a gradual reduction of hepatosplenomegaly.

COMMENTS

There is no doubt that kidney transplant was responsible for the transmission of *T. cruzi* infection in the two cases reported here. After treatment with BNZ, there was rapid resolution of signs and symptoms in the patients, with normalization of body temperature 2 to 3 days after the beginning of treatment.

The potential risk of transmission of Chagas' disease through renal transplants seems to be small. Recently, CANTAROVICH et al. (1991) ¹ followed 9 pairs of renal recipients who had received the organs from chagasic patients and did not detect transmission of the infection in any of them. Based on these data, they recommend the use of such donors even when are known to be infected.

However, taking into consideration the extensive endemic presence of Chagas' disease in Brazil and despite the good therapeutic response of the patients who were infected through the graft, it is our opinion that chagasic donors should be excluded. The treatment used does not always result in parasitologic cure (FIGUEIREDO et al., 1990 ³) and the future implications of acute infection - evolution to chronic forms of the disease and recurrence of acute infection due to the continued use of immunosuppressive drugs - may be evident with time.

RESUMO

Transmissão da Doença de Chagas por transplante renal. Ocorrência da forma aguda da doença em dois receptores de um mesmo doador

São apresentados dois casos de doença de Chagas aguda, adquiridos através de transplante de rins originários de um mesmo doador. O presente relato confirma a transmissão da doença de Chagas a partir do transplante renal e reforça a necessidade de exclusão de doadores renais infectados pelo *Trypanosoma cruzi*.

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